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# THE LAW OF THE NON-NAVIGATIONAL USES OF INTERNATIONAL WATERCOURSES

Addendum

## DRAFT ARTICLES ON THE LAW OF THE NON-NAVIGATIONAL USES OF INTERNATIONAL WATERCOURSES AND COMMENTARIES THERETO, ADOPTED ON SECOND READING BY THE INTERNATIONAL LAW COMMISSION AT ITS FORTY-SIXTH SESSION (continued)

Articles 21-33

## Article 21

### Prevention, reduction and control of pollution 266/

1. For the purposes of this article, "pollution of an international watercourse" means any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct.

2. Watercourse States shall, individually or jointly, prevent, reduce and control pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the waters. Watercourse States shall also take steps to harmonize their policies in this connection.

3. Watercourse States shall, at the request of any of them, consult with a view to establishing lists of substances, the introduction of which into the waters of an international watercourse is to be prohibited, limited, investigated or monitored.

### Commentary

(1) Article 21 establishes the fundamental obligation to prevent, reduce and control the pollution of international watercourses. It contains three paragraphs, the first of which defines the term "pollution", while the second lays down the obligation just referred to, and the third establishes a procedure for drawing up agreed lists of dangerous substances that should be subjected to special controls.

(2) Paragraph 1 contains a general definition of the term "pollution", as that term is used in the present draft articles. While it contains the basic elements found in other definitions of the term, 267/ paragraph 1 is more general in

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266/ Initially adopted as art. 23 in 1990.

267/ See, e.g. art. IX of the Helsinki Rules on the Uses of the Waters of International Rivers, adopted in 1966 by the International Law Association (ILA), Report of the Fifty-second Conference (1967), p. 484; art. I, para. 1, of the "Athens Resolution on the Pollution of Rivers and Lakes and International Law, adopted by the Institute of International Law in 1979; Annuaire de l'Institut de droit international, 1979, vol. 58, Part Two, p. 199; part A, para. 3, of the 1974 Principles concerning transfrontier pollution of the Organisation for Economic Co-operation and Development (OECD) Recommendation C(74) 222 of 14 November 1974, reprinted in OECD and the Environment (1986); art. 2, para. 1, of the Montreal Rules of international law applicable to transfrontier pollution, adopted by the International Law Association in 1982, Report of the Sixtieth Conference (Montreal) (1982); art. 1, para. 4, of the 1982 United Nations Convention on the Law of the Sea; art. 1 of the 1979 ECE Convention on long-range transboundary air pollution; art. 1, para. (c), of the Council of Europe's 1969 draft European Convention on the protection of fresh water against pollution; and art. 1, para. (d), of the Council of Europe's 1974 draft European Convention for

several respects. First, it does not mention any particular type of pollution or polluting agent (e.g. substances or energy), unlike some other definitions. Second, the definition simply refers to "any detrimental alteration" and thus does not prejudge the question of the threshold at which pollution becomes impermissible. This threshold is addressed in paragraph 2. The definition is thus a purely factual one. It encompasses all pollution, whether or not it results in "significant harm" to other watercourse States within the meaning of article 7 and, more specifically, paragraph 2 of article 21. Third, in order to preserve the factual character of the definition, paragraph 1 does not refer to any specific "detrimental" effects, such as harm to human health, property or living resources. Examples of such effects that rise to the level of "significant harm" are provided in paragraph 2. The definition requires only that there be a detrimental alteration in the "composition or quality" of the water. The term "composition" refers to all substances contained in the water, including solutes, as well as suspended particulate matter and other insoluble substances. The term "quality" is commonly used in relation to pollution, especially in such expressions as "air quality" and "water quality". While it is difficult, and perhaps undesirable, to define the term precisely, it refers generally to the essential nature and degree of purity of water. Fourth, the definition does not refer to the means by which pollution is caused, such as by the "introduction" of substances, energy, etc., into a watercourse. It requires only that the "detrimental alteration" result from "human conduct". The latter expression is understood to include both acts and omissions, and was thus considered preferable to such terms as "activities". Finally, the definition does not include "biological" alterations. While there is no doubt that the introduction into a watercourse of alien or new species of flora and fauna may have harmful effects upon the quality of the water, the introduction of such living organisms is not generally regarded as "pollution", _per se_. Biological alterations are therefore the subject of a separate article, _in fine_ article 22.

(3) _Paragraph 2_ sets forth the general obligation of watercourse States to "prevent, reduce and control pollution of an international watercourse

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the protection of international watercourses against pollution, in _Yearbook ... 1974_, vol. II (Part Two), document A/CN.4/274, para. 376.

that may cause significant harm to other watercourse States or to their environment ...". This paragraph is a specific application of the general principles contained in articles 5 and 7.

(4) In applying the general obligation of article 7 to the case of pollution, the Commission took into account the practical consideration that some international watercourses are already polluted to varying degrees, while others are not. In light of this state of affairs, it employed the formula, "prevent, reduce and control" in relation to the pollution of international watercourses. This expression is utilized in the 1982 United Nations Convention on the Law of the Sea in connection with marine pollution, 268/ with respect to which the situation is similar. The obligation to "prevent" relates to new pollution of international watercourses, while the obligations to "reduce" and "control" relate to existing pollution. As with the obligation to "protect" ecosystems under article 20, the obligation to "prevent ... pollution ... that may cause significant harm" includes the duty to exercise due diligence to prevent the threat of such harm. 269/ This obligation is signified by the words "may cause". Furthermore, as in the case of article 20, the principle of precautionary action is applicable, especially in respect of dangerous substances such as those that are toxic, persistent or bioaccumulative. 270/ The requirement that watercourse States "reduce and control" existing pollution reflects the practice of States, in particular those in whose territories polluted watercourses are situated. This practice indicates a general willingness to tolerate even significant pollution harm, provided that the watercourse State of origin is making its best

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268/ United Nations Convention on the Law of the Sea, art. 194, para. 1.

269/ See paragraph (3) of the commentary to art. 20 above.

270/ See the commentary to art. 20 above, especially paragraph (3), and accompanying text, and paragraph (9), ILM vol. XXVI (1987) p. 1,516 and accompanying test.

efforts to reduce the pollution to a mutually acceptable level. 271/ A requirement that existing pollution causing such harm be abated immediately could, in some cases, result in undue hardship, especially where the detriment to the watercourse State of origin was grossly disproportionate to the benefit that would accrue to the watercourse State experiencing the harm. 272/ On the other hand, failure of the watercourse State of origin to exercise due diligence in reducing the pollution to acceptable levels would entitle the affected State to claim that the State of origin had breached its obligation to do so.

(5) Like article 20, paragraph 2 of article 21 requires that the measures in question be taken "individually or jointly". The remarks made on paragraph (4) of the commentary to article 20 apply, mutatis mutandis, with regard to paragraph 2 of article 21. As explained in the commentary to article 20, the obligation to take joint action derives from certain general obligations contained in Part II of the draft articles. In the case of paragraph 2 of article 21, the obligation of watercourse States under article 5 to "participate in the ... protection of an international watercourse in an equitable and reasonable manner", as well as that under article 8 to "cooperate ... in order to attain ... adequate protection of an international watercourse" may, in some situations, call for joint participation in the application of pollution control measures. 273/ These obligations contained in articles 5 and 8 are also relevant to the duty to harmonize policies, addressed in paragraph (7) below.

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271/ See the fourth report of the Special Rapporteur (A/CN.4/412/Add.2), para. (11) of the comments to art. 16[17], at pp. 12-13. This assessment of the practice of States is also reflected in the most recent comprehensive study of the subject: see J. Lammers, Pollution of International Watercourses (1984) p. 301.

272/ This position is in accord with that taken in the Helsinki Rules of the International Law Association. See especially comment (d) to art. XI. ILA, Helsinki Rules, ILA, Report of the Fifty-second Second Conference, 1966 pp. 503-504.

273/ Such participation and cooperation may take a number of forms, including the provision of technical assistance, joint financing, the exchange of specific data and information, and similar forms of joint participation and cooperation. To the same effect, see comment (b) to art. X of the Helsinki Rules. Helsinki Rules, ibid., p. 499.

(6) The obligations of prevention, reduction and control all apply to pollution "that may cause significant harm to other watercourse States or to their environment". Pollution below that threshold would not fall within paragraph 2 but, depending upon the circumstances, might be covered either by article 20 or by article 23, to be discussed below. Several examples of significant harm that pollution may cause to a watercourse State or to its environment are provided at the end of the first sentence of paragraph 2. The list is not exhaustive, but is provided for purposes of illustration only. Pollution of an international watercourse may cause harm not only to "human health or safety" or to "the use of the waters for any beneficial purpose" 274/ but also to "the living resources of the international watercourse", flora and fauna dependent upon the watercourse, and the amenities connected with it. 275/ The term "environment" of other watercourse States is intended to encompass, in particular, matters of the latter kind. 276/ It is thus broader than the concept of the "ecosystem" of an international watercourse, which is the subject of article 20.

(7) The final sentence of paragraph 2 requires watercourse States to "take steps to harmonize their policies" concerning the prevention, reduction and control of

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274/ The Commission recognizes that it may be regarded as somewhat awkward to speak of "harm ... to the use of waters ...", but preferred not to use another expression (such as, for example, "interference with the use of the waters"), since other expressions could raise doubts as to whether a uniform standard was being applied in the case of each illustration. The present wording leaves no doubt that the same standard - that of significant harm - is utilized in all illustrations.

275/ Such amenities may include, e.g. the use of a watercourse for recreational purposes or for tourism.

276/ Significant pollution harm to the "environment" of a watercourse State could also take the form of harm to human health in the form of diseases, or their vectors, carried by water. While harm to "human health" is expressly mentioned in paragraph 2, other forms of significant harm that are not directly connected with the use of water may also result from pollution of an international watercourse.

water pollution. This obligation, which is grounded in treaty practice 277/ and which has a counterpart in the 1982 United Nations Convention on the Law of the Sea, 278/ addresses the problems that often arise when States adopt divergent policies, or apply different standards, concerning the pollution of international watercourses. The duty to harmonize policies is a specific application of certain of the general obligations contained in articles 5 and 8, mentioned in paragraph (5) of the commentary to this article, particularly the obligation of watercourse States under article 8 to "cooperate ... in order to attain ... adequate protection of an international watercourse". In the present case, this means that watercourse States are to work together in good faith to achieve and maintain harmonization of their policies concerning water pollution. Harmonization of policies is thus a process in two different senses. First, initial achievement of harmonization will often involve several steps or stages; it is this aspect of the process that is addressed in paragraph 2, as indicated by the words "take steps". Second, even after policies have been successfully harmonized, continuing cooperative efforts will ordinarily be required to maintain their harmonization as conditions change. The entire process will necessarily depend on consensus among watercourse States.

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277/ International agreements concerning water pollution normally have as one of their explicit or implicit objects the harmonization of the relevant policies and standards of the watercourse States concerned. This is true whether the agreement concerns the protection of fisheries (see, e.g. art. 17 of the 1904 Convention between France and Switzerland for the regulation of fishing in their frontier waters, United Nations Legislative Texts, Treaty No. 196, p. 706), or the prevention of adverse effects upon certain uses (see, e.g. art. 4, para. 10 of the 1960 Indus Waters Treaty between India and Pakistan, United Nations Legislative Texts, United States Government; Treaties and other International Acts Series No. 9257 Treaty No. 97, p. 300), or actually sets water quality standards and objectives (see, e.g. the 1978 Agreement between Canada and the United States on Great Lakes Water Quality, e.g. art. II, note 239). Thus, harmonization may be achieved by agreement upon specific policies and standards or by requiring that pollution not exceed levels necessary for the protection of a particular resource, use of amenity. See generally the discussion of international agreements concerning water pollution in the Fourth report of the Special Rapporteur (A/CN.4/412/Add.1), paras. 39-48.

278/ United Nations Convention on the Law of the Sea, art. 194, para. 1.

(8) Paragraph 3 requires watercourse States to enter into consultations, if one or more of them should so request, with a view to drawing up lists of substances which, by virtue of their dangerous nature, should be subjected to special regulation. Such substances are principally those that are toxic, persistent or bioaccumulative. The practice of establishing lists of substances whose discharge into international watercourses is either prohibited or subject to special regulation has been followed in a number of international agreements and other instruments. 279/ States have made the discharge of these substances subject to special regimes because of their particularly dangerous and long-lasting nature. Indeed, the objective of some of the recent agreements dealing with these substances is to eliminate them entirely from the watercourses in question. 280/ The provision contained in paragraph 3 is in no way intended to suggest that pollution by substances is of any greater concern or effect than any other detrimental alteration resulting from human conduct such as the thermal consequences of energy.

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279/ See, e.g. the 1976 Convention on the Protection of the Rhine against Chemical Pollution, United Nations, Treaty Series, vol. 1124, p. 375; the 1978 Agreement between Canada and the United States on Great Lakes Water Quality, Treaties and other International Acts Series, No. 9257.

See also the Council of Europe's draft European Convention for the protection of international watercourses against pollution, Yearbook ... 1974 vol. II (Part Two) para. 376; art. III, para. 2, of the Institute of International Law's Athens Resolution on the Pollution of Rivers and Lakes and International Law, Annuaire de l'Institut de droit international, 1979, vol. 58, Part II, p. 199, and article 2 of the International Law Association's 1982 Montreal Rules on Water Pollution, ILA, Report of the Sixtieth Conference (Montreal, 1982), pp. 13, 535.

The same approach has also been used in the field of marine pollution. See especially the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, International Legal Materials, vol. XI (1972), p. 1294. This agreement separates harmful wastes into three categories: those whose discharge is prohibited altogether; those whose discharge is subject to a prior special permit; and those whose discharge is subject only to a prior general permit.

280/ Illustrations of such agreements are provided in the preceding footnote.

(9) A detailed survey of representative illustrations of international agreements, the work of international organizations, decisions of international courts and tribunals, and other instances of State practice supporting article 21 is contained in the Fourth report of the Special Rapporteur. 281/ A recent study lists 88 international agreements "containing substantive provisions concerning pollution of international watercourses". 282/ The work of international non-governmental organizations concerned with international law and groups of experts in this field has been particularly rich. 283/ These authorities evidence a long-standing concern of States with the problem of pollution of international watercourses.

Article 22

Introduction of alien or new species 284/

> Watercourse States shall take all measures necessary to prevent the introduction of species, alien or new, into an international watercourse which may have effects detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse States.

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281/ A/CN.4/412/Add.1, paras. 38-88.

282/ J. Lammers, Pollution of International Waters (1984) note 270, pp. 124 et seq. See also the survey by J.J.A. Salmon, conducted in connection with the study by the Institute of International Law of "Les obligations relatives à la protection du milieu aquatique", in Annuaire de l'Institut de droit international, 1979, vol. 58, Part One, pp. 195-200 and 268-271.

283/ This is especially true of the Institute of International Law and the International Law Association. For the Institute of International Law, see especially the 1979 Athens Resolution on the Pollution of Rivers and Lakes and International Law, Annuaire de l'Institut de droit international (1979) vol. 58. For the International Law Association, see the Helsinki Rules, arts. IX-XI; the 1982 Montreal Rules on water pollution in an international drainage basin, and the Seoul Rules on international groundwaters, art. 3, Report of the ILA Committee on International Water Resources Law, Seoul Conference (1986), p. 38. See also the Legal Principles for Environmental Protection and Sustainable Development elaborated by the Experts Group on Environmental Law of the World Commission on Environment and Development, Environmental Protection and Sustainable Development, Legal Principles and Recommendations (1987) p. 45.

284/ Initially adopted as art. 24 in 1990.

Commentary

(1) The introduction of alien or new species of flora or fauna into a watercourse can upset its ecological balance and result in serious problems including the clogging of intakes and machinery, the spoiling of recreation, the acceleration of eutrophication, the disruption of food webs, the elimination of other, often valuable species, and the transmission of disease. Once introduced, alien and new species can be highly difficult to eradicate.

Article 22 addresses this problem by requiring watercourse States to take all measures necessary to prevent such introduction. A separate article is necessary to cover this subject because, as already noted, the definition of "pollution" contained in paragraph 1 of article 21 does not include biological alterations. 285/ A similar provision, relating to the protection of the marine environment, is contained in article 196 of the 1982 United Nations Convention on the Law of the Sea. 286/

(2) The term "species" includes both flora and fauna, i.e., plants, animals and other living organisms. 287/ The term "alien" refers to species that are non-native, while "new" encompasses species that have been genetically altered or produced through biological engineering. As is clear from its terms, the article concerns the introduction of such species only into the watercourse itself, and does not concern fish farming or other activities that are conducted outside the watercourse. 288/

(3) Article 22 requires watercourse States to "take all measures necessary" to prevent the introduction of alien or new species. This expression, which is also utilized in article 196 of the 1982 United Nations Convention on the Law of the

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285/ See paragraph (2) of the commentary to art. 21.

286/ 1982 United Nations Convention on the Law of the Sea, art. 196, para. 1.

287/ Thus the term would include parasites and disease vectors.

288/ Appropriate precautionary measures may be required, however, to prevent any alien or new species involved in such activities from making their way into the watercourse.

Sea, indicates that watercourse States are to undertake studies, in so far as they are able, and take the precautions that are required to prevent alien or new species from being introduced into a watercourse by public authorities or private persons. The obligation is one of due diligence, and will not be regarded as having been breached if a watercourse State has done all that can reasonably be expected to prevent the introduction of such species.

(4) The "introduction" that watercourse States are to take all measures necessary to prevent is one that "may have effects detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse States". While any introduction of an alien or new species into an international watercourse should be treated with great caution, the Commission was of the view that the relevant legal obligation under the present draft articles should be kept in harmony with the general rule contained in article 7. Since detrimental effects of alien or new species will, almost invariably, manifest themselves first upon the ecosystem of a watercourse, this link between the "introduction" of the species and significant harm was included in the article. As in the case of paragraph 2 of article 21, the use of the word "may" indicates that precautionary action is necessary to guard against the very serious problems that alien or new species may cause. While the term "environment" was included for purposes of emphasis in paragraph 2 of article 21, it perhaps goes without saying that the "significant harm to other watercourse States" contemplated in the present article includes harm to the environment of those States. Finally, as is true of other aspects of the protection of international watercourses, joint, as well as individual action may be called for in preventing the introduction of alien or new species into international watercourses.

## Article 23

### Protection and preservation of the marine environment 289/

Watercourse States shall, individually or jointly, take all measures with respect to an international watercourse that are necessary to protect and preserve the marine environment, including estuaries, taking into account generally accepted international rules and standards.

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289/ Initially adopted as art. 25 in 1990.

Commentary

(1) Article 23 addresses the increasingly serious problem of pollution that is transported into the marine environment by international watercourses. While the impact of such pollution upon the marine environment, including estuaries, has been recognized only relatively recently, it is now dealt with, directly or indirectly, in a number of agreements. In particular, the obligation not to cause pollution damage to the marine environment from land-based sources is recognized both in the 1982 United Nations Convention on the Law of the Sea 290/ and in conventions concerning various regional seas. 291/

(2) The obligation set forth in article 23 is not, however, to protect the marine environment, per se, but to take measures "with respect to an international watercourse" that are necessary to protect that environment. But the obligation of watercourse States under article 23 is separate from, and additional to, the obligations set forth in articles 20 to 22. Thus, a watercourse State could conceivably damage an estuary through pollution of an international watercourse without breaching its obligation not to cause significant harm to other watercourse States. Article 23 would require the former watercourse State to take the measures necessary to protect and preserve the estuary.

(3) The expression "take all measures ... necessary" has the same meaning, mutatis mutandis, as in article 22. 292/ In the present case, watercourse States are to take all of the necessary measures of which they are capable, financially

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290/ See art. 194, para. 3 (a), and art. 207.

291/ See e.g. the agreements cited in ILM, vol. XIII (1974) pp. 352, 546: ibid, vol. XV (1976) (p. 290, vol. XX (1980) p. 873: ibid, vol. XVII (1978) p. 511. See also the Ministerial Declarations of the various International Conferences on the Protection of the North Sea: the First International Conference (Bremen, 31 October-1 November 1984); the Second International Conference (London, 24-25 November 1987); and the Third International Conference (The Hague, 8 March 1990).

292/ See paragraph (3) of the commentary to art. 22 above.

and technologically. The expression "individually or jointly" also has the same meaning, mutatis mutandis, as in articles 20 293/ and 21, paragraph 2. 294/ Thus, where appropriate, watercourse States are to take joint, cooperative action to protect the marine environment from pollution carried there by an international watercourse. Such action is to be taken on an equitable basis. The terms "protect" and "preserve" have the same meaning, mutatis mutandis, as in article 20. 295/ Without prejudice to its meaning in the 1982 United Nations Convention on the Law of the Sea and

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293/ See paragraph (4) of the commentary to art. 20 above.

294/ See paragraph (5) of the commentary to art. 21 above.

295/ See paragraph (3) of the commentary to art. 20 above.

other international agreements, the expression "marine environment" is understood to include, inter alia, the water, flora and fauna of the sea, as well as the sea-bed and ocean floor. 296/

(4) The article concludes with the phrase, "taking into account generally accepted international rules and standards", which has also been utilized in the 1982 United Nations Convention on the Law of the Sea. 297/ The phrase refers both to rules of general international law and to those derived from international agreements, as well as to standards adopted by States and international organizations pursuant to those agreements. 298/

Article 24

Management 299/

1. Watercourse States shall, at the request of any of them, enter into consultations concerning the management of an international watercourse, which may include the establishment of a joint management mechanism.

2. For the purposes of this article, "management" refers, in particular, to:

(a) planning the sustainable development of an international watercourse and providing for the implementation of any plans adopted; and

(b) otherwise promoting rational and optimal utilization, protection and control of the watercourse.

Commentary

(1) Article 26 recognizes the importance of cooperation by watercourse States in managing international watercourses with a view to ensuring their protection

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296/ The expression "marine environment" is not defined in the 1982 Convention. "Pollution of the marine environment" is, however, defined in art. 1, para. (4).

297/ See, e.g. art. 211, para. 2.

298/ See, in particular, the agreements referred to in ILM vol. XIII (1974) pp. 352, 546: ibid, vol. XV (1976) p. 290, vol. XX p. 873: ibid, vol. XVII (1978), p. 511.

299/ Adopted in 1991 (formerly art. 26 on first reading).

while maximizing benefits for all watercourse States concerned. It is intended to facilitate the consideration by watercourse States of modalities of management that are appropriate to the individual States and watercourses in question.

(2) Paragraph 1 requires that watercourse States enter into consultations concerning the management of an international watercourse if any watercourse State should so request. The paragraph does not require that watercourse States "manage" the watercourse in question, or that they establish a joint organization, such as a commission, or other management mechanism. The outcome of the consultations is left in the hands of the States concerned. States have, in practice, established numerous joint river, lake and similar commissions, many of which are charged with management of the international watercourses. Management of international watercourses may also be affected through less formal means, however, such as by the holding of regular meetings between the appropriate agencies or other representatives of the States concerned. Thus paragraph 1 refers to a joint management "mechanism" rather than an organization in order to provide for such less formal means of management.

(3) Paragraph 2 indicates in general terms the most common features of a programme of management of an international watercourse. The use of terms in this Article such as "sustainable development" and "rational and optimal utilization" is to be understood as relevant to the process of management. It in no way affects the application of Articles 5 and 7 which establish the fundamental basis for the draft Articles as a whole. Planning the development of a watercourse so that it may be sustained for the benefit of present and future generations is emphasized in subparagraph (a) because of its fundamental importance. While joint commissions have proved an effective vehicle for carrying out such plans, the watercourse States concerned may also implement plans individually. The functions mentioned in subparagraph (b) are also common features of management regimes. Most of the specific terms contained in that subparagraph are derived from other articles of the draft, in particular article 5. The adjective "rational" indicates that the "utilization, protection and control" of an international watercourse should be planned by the watercourse States concerned, rather than being carried out on a haphazard or ad hoc basis. Together, subparagraphs (a) and (b) would include such functions as: planning of

sustainable, multi-purpose and integrated development of international watercourses; facilitation of regular communication and exchange of data and information between watercourse States; and monitoring of international watercourses on a continuous basis.

(4) A review of treaty provisions concerning institutional arrangements, in particular, reveals that States have established a wide variety of organizations for the management of international watercourses. Some agreements deal only with a particular watercourse while others cover a number of watercourses or large drainage basins. The powers vested in the respective commissions are tailored to the subject matter of the individual agreements. Thus, the competence of a joint body may be defined rather specifically where a single watercourse is involved and more generally where the agreement covers an international drainage basin or a series of boundary rivers, lakes and aquifers. Article 26 is cast in terms that are intended to be sufficiently general to be appropriate for a framework agreement. At the same time, the article is designed to provide guidance to watercourse States with regard to the powers and functions that could be entrusted to such joint mechanisms or institutions as they may decide to establish.

(5) The idea of establishing joint mechanisms for the management of international watercourses is hardly a new one. 300/ As early as 1911, the Institute of International Law recommended "that the interested States appoint permanent joint commissions" to deal with "new establishments or the

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300/ The 1754 Treaty of Vaprio between the Empress of Austria, in her capacity as Duchess of Milan and the Republic of Venice, entrusted a pre-existing joint boundary commission with functions relating to the common use of the river Ollia. Parry, The Consolidated Treaty Series, vol. 40, pp. 215-228. Another early example is found in the 1785 Treaty of Fontainebleau between Austria and the Netherlands, which formed a bipartite body to determine the best sites for the joint construction of locks on the River Meuse. Martens, Recueil des Traites, 2nd ed., vol. 4, p. 55, also referred to in the 1952 report of the Economic Commission for Europe (ECE), "Legal aspects of hydroelectric development of rivers and lakes of common interest", document E/ECE/136-E/ECE/EP/98/Rev.1, paras. 175, et seq.

making of alterations in existing establishments". 301/ Many of the early agreements concerning international watercourses, particularly those of the nineteenth century, were especially concerned with the regulation of navigation and fishing. 302/ The more recent agreements, especially those concluded since the Second World War, have focused more upon other aspects of the utilization or development of international watercourses, such as the study of the development potential of the watercourse, irrigation, flood control, hydroelectric power generation and pollution. 303/ These kinds of uses, which took on greater importance due to the intensified demand for water, food and electricity, have necessitated to a much greater degree the establishment of joint management mechanisms. Today there are nearly as many such mechanisms as there are major international watercourses. 304/ They may be ad hoc or permanent, and they

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301/ Resolution on "International regulations regarding the use of international watercourses". Annuaire de l'Institut de droit international, Madrid session, April 1911 (Paris 1911), vol. 24, pp. 365-367, reproduced in Yearbook ... 1974, vol. II (Part Two), p. 200, document A/5409, para. 1071.

302/ An illustrative survey may be found in the fourth report of the Special Rapporteur, Yearbook ... 1988, vol. II (Part One), document A/CN.4/412, paras. 39-48.

303/ This point is illustrated by the discussion of "Multilateral agreements" in United Nations Management of international water resources: institutional and legal aspects, Natural Resources/Water Series No. 1 (United Nations publication, Sales No. E.75.II.A.2) (1987), pp. 33-36, especially p. 34.

304/ A survey of multipartite and bipartite commissions concerned with non-navigational uses of international watercourses, compiled by the Secretariat in 1979, lists 90 such bodies. Annotated list of multipartite and bipartite commissions concerned with non-navigational uses of international watercourses, April 1979 (unpublished). While the largest number of the commissions listed deal with watercourses in Europe, every region of the world is represented and the number of commissions was increasing in developing countries, particularly on the African continent, at the time the list was prepared. Ibid., p. ii.

possess a wide variety of functions and powers. 305/ Article 26 takes into account not only this practice of watercourse States, but also the recommendations of conferences and meetings held under United Nations auspices to the effect that those States should consider establishing joint management mechanisms in order to attain maximum possible benefits from and protection of international watercourses. 306/

Article 25

Regulation 307/

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305/ For summary descriptions of some of these agreements, "selected to illustrate the widest possible variety of arrangements", see ibid., annex IV. See also the list of agreements setting up joint machinery for the management of international watercourses in International Law Association (ILA) Report of the Fifty-seventh Conference, Madrid, 1976 (London, 1978), pp. 256-266; and Ely and Wolman, "Administration", in The Law of International Drainage Basins (Garretson, Hayton & Olmstead, eds. and contribs. 1966), p. 124; and the sixth report of the Special Rapporteur, document A/CN.4/427, paras. 3-6. The kinds of functions and powers that have been conferred upon joint management mechanisms are illustrated in the following three agreements from three separate continents: the Convention creating the Niger Basin Authority, 21 November 1980 (Benin, Cameroon, Chad, Ivory Coast, Guinea, Mali, Niger, Nigeria, Upper Volta), arts. 3-5; Treaties concerning the utilization of international watercourses for other purposes than navigation, Africa, Natural Resources/Water Series No. 13, (United Nations publication, Sales No. E/F.84.II.A.7), Treaty No. 13, at p. 56; the Indus Waters Treaty, 19 September 1960 (India and Pakistan), Legislative Texts, Treaty No. 98, p. 300; and the Treaty between Canada and the United States relating to boundary waters, and questions arising between the United States and Canada, 11 January 1909, ibid., Treaty No. 79, p. 260.

306/ See, e.g. the Report of the United Nations Conference on the Human Environment, Stockholm, 5-16 June 1972 (United Nations publication, Sales No. E.73.II.A.14), Chap. II, "Action Plan for the Human Environment", recommendation 51; and United Nations Economic Commission for Africa, Department of Technical Cooperation for Development, Interregional Meeting on River and Lake Development, with emphasis on the African region, Addis Ababa, Ethiopia, 10-16 October 1988, Report of the Meeting, document ECA/NRD/IMRLBD/42, 14 October 1988, pp. 35-37. The work of international organizations in this field is surveyed in the sixth report of the Special Rapporteur, A/CN.4/427, paras. 7-17.

307/ Adopted in 1991 (formerly art. 25 on first reading).

1. Watercourse States shall cooperate, where appropriate, to respond to needs or opportunities for regulation of the flow of the waters of an international watercourse.

2. Unless otherwise agreed, watercourse States shall participate on an equitable basis in the construction and maintenance or defrayal of the costs of such regulation works as they may have agreed to undertake.

3. For the purposes of this article, "regulation" means the use of hydraulic works or any other continuing measure to alter, vary or otherwise control the flow of the waters of an international watercourse.

Commentary

(1) Article 27 deals with the regulation, by watercourse States, of the flow of waters of an international watercourse. Regulation of the flow of watercourses is often necessary both to prevent harmful effects of the current, such as floods and erosion, and to maximize the benefits that may be obtained from the watercourse. The article consists of three paragraphs, setting forth respectively the basic obligation in respect of regulation, the duty of equitable participation as it applies to regulation, and a definition of the term "regulation".

(2) Paragraph 1 is a specific application of the general obligation to cooperate provided for in article 8. The paragraph requires watercourse States to cooperate, where appropriate, specifically with regard to needs and opportunities for regulation. As indicated in the preceding paragraph of this commentary, such needs and opportunities would normally relate to the prevention of harm and the increasing of benefits from the international watercourse in question. The words "where appropriate" emphasize that the obligation is not to seek to identify needs and opportunities, but to respond to those that exist.

(3) Paragraph 2 applies to situations in which watercourse States have agreed to undertake works for the regulation of the flow of an international watercourse. It is a residual rule which requires watercourse States to "participate on an equitable basis" in constructing, maintaining, or defraying the costs of those works unless they have agreed on some other arrangement. This duty is a specific application of the general obligation of equitable participation contained in article 5. It does not require watercourse States to "participate", in any way, in regulation works from which they derive no benefit. It would simply mean that

when one watercourse State agrees with another to undertake regulation works, and receives benefits therefrom, the former would be obligated, in the absence of agreement to the contrary, to contribute to the construction and maintenance of the works in proportion to the benefits it received therefrom.

(4) Paragraph 3 contains a definition of the term "regulation". The definition identifies, first, the means of regulation, i.e., "hydraulic works or any other continuing measure" and, second, the objectives of regulation, i.e., "to alter, vary or otherwise control the flow of the waters". Specific means of regulation commonly include such works as dams, reservoirs, weirs, canals, embankments, dykes, and river bank fortifications. They may be used for such objectives as regulating the flow of water, so as to prevent floods in one season and drought in another; guarding against serious erosion of river banks or even changes in the course of a river; and assuring a sufficient supply of water, e.g., to keep pollution within acceptable limits, or to permit such uses as navigation and timber floating. Making the flow of water more consistent through regulation or control works can also extend periods during which irrigation is possible, permit or enhance the generation of electricity, alleviate siltation, prevent the formation of stagnant pools in which the malarial mosquito may breed, and sustain fisheries. However, regulation of the flow of an international watercourse may also have adverse effects upon other watercourse States. For example, a dam may reduce seasonal flows of water to a downstream State or flood an upstream State. The fact that regulation of the flow of water may be necessary to achieve optimal utilization and, at the same time, potentially harmful, demonstrates the importance of cooperation between watercourse States in the manner provided for in article 27.

(5) The numerous treaty provisions concerning regulation of the flow of international watercourses demonstrate that States recognize the importance of

cooperation in this respect. 308/ This practice and the need for strengthening cooperation among watercourse States with regard to regulation has also led an organization of specialists in international law to elaborate a set of general rules and recommendations concerning the regulation of the flow of international watercourses. 309/ The present article, which was inspired by the practice of States in this field, contains general obligations, appropriate for a framework instrument, relating to a subject of concern to all watercourse States.

## Article 26

## Installations 310/

1. Watercourse States shall, within their respective territories, employ their best efforts to maintain and protect installations, facilities and other works related to an international watercourse.

2. Watercourse States shall, at the request of any of them which has serious reason to believe that it may suffer significant adverse effects, enter into consultations with regard to:

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308/ A number of these provisions are referred to in the fifth report of the Special Rapporteur, document A/CN.4/421/Add.2, paras. 131-138. Representative examples include the 1959 Agreement between the Soviet Union, Norway and Finland concerning the regulation of Lake Inari by means of the Kaitakoski hydroelectric power station and dam, United Nations, Treaty Series, vol. 346, p. 167; the 1944 Treaty between the United States and Mexico relating to the utilization of the waters of the Colorado and Tijuana rivers and the Rio Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico, ibid., vol. 3, p. 313; the 1959 Agreement between the United Arab Republic and the Sudan for the full utilization of the Nile waters, ibid., vol. 453, p. 51; the 1969 Treaty of the La Plata River Basin (Argentina, Bolivia, Brazil, Paraguay and Uruguay) (art. I, para. (b), ibid., vol. 875, p. 11; and the 1960 Indus Waters Treaty between India and Pakistan, Legislative Texts, Treaty No. 98, pp. 325-332 (Annexure E).

309/ At its 1980 Conference in Belgrade, the International Law Association adopted nine articles on the Regulation of the Flow of Water of International Watercourses, ILA, Report of the Fifty-ninth Conference, Belgrade, 1980 (London, 1982), p. 4. The articles are set forth in the fifth report of the Special Rapporteur, document A/CN.4/421/Add.2, para. 139.

310/ Adopted in 1991 (formerly art. 28 on first reading).

(a) the safe operation or maintenance of installations, facilities or other works related to an international watercourse; or

(b) the protection of installations, facilities or other works from wilful or negligent acts or the forces of nature.

Commentary

(1) Article 28 concerns the protection of installations, such as dams, barrages, dykes and weirs from damage due to deterioration, the forces of nature or human acts, which may result in significant harm to other watercourse States. The article consists of two paragraphs which, respectively, lay down the general obligation and provide for consultations concerning the safety of installations.

(2) Paragraph 1 requires that watercourse States employ their "best efforts" to maintain and protect the works there described. Watercourse States may fulfil this obligation by doing what is within their individual capabilities to maintain and protect installations, facilities and other works related to an international watercourse. Thus, for example, a watercourse State should exercise due diligence to maintain a dam, i.e., keep it in good order, such that it will not burst, causing significant harm to other watercourse States. Similarly, all reasonable precautions should be taken to protect such works from foreseeable kinds of damage due to forces of nature, such as floods, or to human acts, whether wilful or negligent. The wilful acts in question would include terrorism and sabotage, while negligent conduct would encompass any failure to exercise ordinary care under the circumstances which resulted in damage to the installation in question. The words "within their respective territories" reflect the fact that maintenance and protection of works are normally carried out by the watercourse State in whose territory the works in question are located. Paragraph 1 in no way purports to authorize much less require, one watercourse State to maintain and protect works in the territory of another watercourse State. However, there may be circumstances in which it would be appropriate for a watercourse State to participate in the maintenance and protection of works outside its territory as, for example, where it operated the works jointly with the State in which they were situated.

(3) Paragraph 2 establishes a general obligation of watercourse States to enter into consultations concerning the safe operation, maintenance or protection of

water works. The obligation is triggered by a request of a watercourse State "which has serious reason to believe that it may suffer significant adverse effects" arising from the operation, maintenance or protection of the works in question. Thus, in contrast to paragraph 1, this paragraph deals with exceptional situations in which a watercourse State perceives the possibility of a particular danger. The cases addressed in paragraph 2 should also be distinguished from "emergency situations" under article 25. While the situations dealt with in the latter article involve, inter alia, an imminent threat, the danger under paragraph 2 of the present article need not be an imminent one, although it should not be so remote as to be de minimis. The requirement that a watercourse State have a "serious reason to believe" that it may suffer adverse effects constitutes an objective standard, and requires that there be a realistic danger. The phrase "serious reason to believe" is also used in article 18 and has the same meaning as in that article. This requirement conforms with State practice, since States generally hold consultations when there are reasonable grounds for concern about actual or potential adverse effects. Finally, the expression "significant adverse effects" has the same meaning as in article 12. Thus the threshold established by this standard is lower than that of "significant harm". 311/

(4) The obligation to enter into consultations under paragraph 2 applies to significant adverse effects that may arise in two different ways. First, such effects may arise from the operation or maintenance of works. Thus, subparagraph (a) provide for consultations concerning the operation or maintenance of works in a safe manner. Second, adverse effects upon other watercourse States may result from damage to water works due to wilful or negligent acts, due to the forces of nature. Thus, if a watercourse State had serious reason to believe that it could be harmed by such acts or forces, it would be entitled under subparagraph (b) of paragraph 2 to initiate consultations concerning the protection of the works in question from such acts as terrorism and sabotage, or such forces as landslides and floods.

(5) The concern of States for the protection and safety of installations is reflected in international agreements. Some agreements involving hydroelectric

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311/ See para. (2) of the commentary to art. 12 above.

projects contain specific provisions concerning the design of installations 312/ and provide that plans for the works may not be carried out without the prior approval of the parties. 313/ States have also made provision in their agreements for ensuring the security of works through the enactment of domestic legislation by the State in whose territory the works are situated. 314/ Article 28 does not go so far, but lays down general, residual rules intended to provide for basic levels of protection and safety of works related to international watercourses.

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312/ An example is the Convention of 1957 between Switzerland and Italy concerning the use of the water power of the Spöl, art. 8, Legislative Texts, Treaty No. 235, at p. 862; summarized in Yearbook ... 1974, vol. II (Part Two), p. 161, document A/5409, paras. 849-854.

313/ 1963 Convention between France and Switzerland on the Emosson hydroelectric project, art. 2, in Revue générale de droit international public (Paris), 3rd series, vol. XXXVI, No. 1 (January-March, 1965), p. 571; summarized in Yearbook ... 1974, vol. II (Part Two), p. 311, document A/CN.4/274, para. 229.

314/ Ibid., art. 2.

## Part V

## HARMFUL CONDITIONS AND EMERGENCY SITUATIONS

### Article 27

### Prevention and mitigation of harmful conditions 315/

Watercourse States shall, individually or jointly, take all appropriate measures to prevent or mitigate conditions that may be harmful to other watercourse States, whether resulting from natural causes or human conduct, such as flood or ice conditions, water-borne diseases, siltation, erosion, salt-water intrusion, drought or desertification.

### Commentary

(1) Article 24 deals with a wide variety of "conditions" related to international watercourses that may be harmful to watercourse States. While it may be debated whether the harm results from the condition itself or from the effects thereof, there is no doubt that such problems as floods, ice floes, drought and water-borne diseases, to mention only a few, are of serious consequence for watercourse States. The present article is concerned with the prevention and mitigation of such conditions while article 25 deals with the obligation of watercourse States in responding to actual emergency situations. The measures called for in preventing and mitigating these conditions are of an anticipatory nature and are thus quite different from those involved in responding to emergencies.

(2) Like articles 20, 21 and 23, the present article requires that the measures in question be taken "individually or jointly". As in the case of those articles, this expression is an application of the general obligation of equitable participation set forth in article 5. The requirement that watercourse States take "all appropriate measures" means that they are to take measures that are tailored to the situation involved, and that are reasonable in view of the circumstances of the watercourse State in question. It takes into account the capabilities of watercourse States, in so far as their means of knowing of the conditions and their ability to take the necessary measures are concerned.

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315/ Initially adopted as article 26 in 1990 (formerly art. 24 on first reading).

(3) The conditions dealt with in article 24 may result from natural causes, human conduct, or a combination of the two. 316/ The expression "natural causes or human conduct" comprehends each of these three possibilities. While States cannot prevent phenomena resulting entirely from natural causes, they can do much to prevent and mitigate harmful conditions that are consequent upon such phenomena. For example, floods may be prevented, or their severity mitigated, through the construction of reservoirs, afforestation, or improved range management practices.

(4) The list of conditions provided at the end of the article is non-exhaustive, but includes most of the major problems that the article is intended to address. Other conditions covered by the article include drainage problems and flow obstructions. Drought and desertification may not, at first glance, seem to fit in with the other problems mentioned since, unlike the others, they are the result of the lack of water rather than the harmful effects of it. But the effects of a drought, for example, may be seriously exacerbated by improper water management practices. 317/ And States situated in regions subject to droughts and desertification have demonstrated their determination to cooperate with a view to controlling and mitigating these problems. 318/ In view of the severity of these problems, and of the fact that cooperative action among watercourse States can do much to prevent or mitigate them, they are expressly mentioned in the article.

(5) The kinds of measures that may be taken under article 24 are many and varied. They range from the regular and timely exchange of data and information

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316/ For example, floods and siltation may result from deforestation coupled with heavy rains. Or a flood may be caused by earthquake damage to a dam.

317/ See, e.g. Report of the United Nations Water Conference, (Doc. E/Conf. 70/29) p. 112.

318/ See, e.g. article 4 of the 1980 Convention creating the Niger Basin Authority, which provides that the Authority shall undertake activities relating to the "[p]revention and control of drought and desertification ...". Natural Resources/Water Series No. 13, pp. 58 and 59, art. 4, para. (2) (c) (iv) and (d) (iv). See also the 1973 Convention establishing a Permanent Inter-State Committee on Drought Control in the Sahel, art. 4, subparas. (i) and (iv), document A/9178.

that would be of assistance in preventing and mitigating the conditions in question, to taking all reasonable steps to ensure that activities in the territory of a watercourse State are so conducted as not to cause conditions that may be harmful to other watercourse States. They may also include the holding of consultations concerning the planning and implementation of joint measures, whether or not involving the construction of works, and the preparation of studies of the efficacy of measures that have been taken.

(6) Article 24 is based upon the provisions of numerous treaties, 319/ decisions of international courts and tribunals, other evidence of State practice, and the work of international organizations. 320/ Representative examples of these authorities have been surveyed and analysed in the Fifth report of the Special Rapporteur. 321/

## Article 28

## Emergency situations 322/

1. For the purposes of this article, "emergency" means a situation that causes, or poses an imminent threat of causing, serious harm to watercourse States or other States and that results suddenly from natural causes, such as floods, the breaking up of ice, landslides or earthquakes, or from human conduct, such as industrial accidents.

2. A watercourse State shall, without delay and by the most expeditious means available, notify other potentially affected States and competent

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319/ See, e.g. the systematized collection of treaty provisions concerning floods in the report submitted in 1972 by the Committee on International Water Resources Law of the International Law Association. ILA, Report of the Fifty-fifth Conference, New York, 1972 (1974), Part II, Flood Control, pp.43-97. A number of these agreements require consultation, notification, the exchange of data and information, the operation of warning systems, the preparation of surveys and studies, the planning and execution of flood control measures, and the operation and maintenance of works.

320/ See especially the articles on flood control adopted in 1972 by the International Law Association (ibid.).

321/ A/CN.4/421 and Add.1, paras. 2-116.

322/ Initially adopted as art. 27 in 1990 (formally art. 25 on first reading).

international organizations of any emergency originating within its territory.

3. A watercourse State within whose territory an emergency originates shall, in cooperation with potentially affected States and, where appropriate, competent international organizations, immediately take all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate harmful effects of the emergency.

4. When necessary, watercourse States shall jointly develop contingency plans for responding to emergencies, in cooperation, where appropriate, with other potentially affected States and competent international organizations.

Commentary

(1) Article 25 deals with the obligations of watercourse States in responding to actual emergency situations that are related to international watercourses. It is to be contrasted with article 24 which concerns the prevention and mitigation of conditions that may be harmful to watercourse States. 323/

(2) Paragraph 1 defines the term "emergency". The definition contains a number of important elements, and includes several examples that are provided for purposes of illustration. As defined, an "emergency" must cause, or imminently threaten, "serious harm" to watercourse States "or other States". The seriousness of the harm involved, together with the suddenness of the emergency's occurrence, justifies the measures required by the article. The expression "other States" refers to non-watercourse States that might be affected by an emergency. These would usually be coastal States that could be harmed by, e.g. a chemical spill transported by an international watercourse into the sea. The situation constituting an emergency must arise "suddenly". This does not necessarily mean, however, that the situation need be wholly unexpected. For example, weather patterns may provide an advance indication that a flood is likely. Because this situation would pose "an imminent threat of causing [ ] serious harm to watercourse States", a watercourse State in whose territory the flood is likely to originate would be obligated under paragraph 2 to notify other potentially affected States of the emergency. Finally, the situation may result either "from natural causes ... or from human conduct". While there may well be

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323/ See para. (1) of the commentary to that article.

no liability on the part of a watercourse State for the harmful effects in another watercourse State of an emergency originating in the former and resulting entirely from natural causes, the obligations under paragraphs 2 and 3 would none the less apply to such an emergency. 324/

(3) Paragraph 2 requires a watercourse State within whose territory an emergency originates to notify, "without delay and by the most expeditious means available", other potentially affected States and competent international organizations. Similar obligations are contained, for example, in the 1986 Convention on early notification of a nuclear accident, 325/ the 1982 United Nations Convention on the Law of the Sea, 326/ and a number of agreements concerning international watercourses. 327/ The words "without delay" mean immediately upon learning of the emergency, and the phrase "by the most expeditious means available" means that the most rapid means of communication that is accessible is to be utilized. The States to be notified are not confined to watercourse States since, as explained above, non-watercourse States may be affected by an emergency. The paragraph also calls for the notification of "competent international organizations". Such an organization would have to be competent to participate in responding to the emergency by virtue of its

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324/ Thus, the breach of one of those obligations would engage the responsibility of the State in question.

325/ International Legal Materials, vol. XXV (1986), p. 1370, art. 2, p. 1,371.

326/ Art. 198.

327/ See, e.g. the 1976 Convention on the protection of the Rhine against chemical pollution, art. 11, UNTS, vol. 1124, p. 375; the 1978 Agreement between Canada and the United States on Great Lakes Water Quality, Treaties and Other International Acts Series, No. 9257; and the 1977 Convention concerning accidental pollution of Lake Geneva, 1977 Official Collection of Swiss Laws, p. 2,204, reproduced in Ruester, Simma and Bock, International Protection of the Environment, vol. XXV (1981), p. 285.

constituent instrument. Most frequently, such an organization would be one established by the watercourse States to deal, inter alia, with emergencies. 328/

(4) Paragraph 3 requires that a watercourse State within whose territory an emergency originates "immediately take all practicable measures ... to prevent, mitigate and eliminate harmful effects of the emergency". The most effective action to counteract most emergencies resulting from human conduct is that taken where the industrial accident, vessel grounding or other incident occurs. But the paragraph requires only that all "practicable" measures be taken, meaning those that are feasible, workable and reasonable. Further, only such measures as are "necessitated by the circumstances" need be taken, meaning those that are warranted by the factual situation of the emergency and its possible effect upon other States. Like paragraph 2, paragraph 3 foresees the possibility that there will be a competent international organization, such as a joint commission, with which the watercourse State may cooperate in taking the requisite measures. And finally, cooperation with potentially affected States (again including non-watercourse States) is also provided for. Such cooperation may be especially appropriate in the case of contiguous watercourses or where a potentially affected State is in a position to render assistance on the territory of the watercourse State where the emergency originated.

(5) Paragraph 4 contains an obligation that is different in character from those contained in the two preceding paragraphs, in that it calls for anticipatory rather than responsive action. The need for the development of contingency plans for responding to possible emergencies is now well recognized. For example, article 199 of the 1982 United Nations Convention on the Law of the Sea provides that "States shall jointly develop and promote contingency plans for responding to pollution incidents in the marine environment".

(6) The obligation set forth in paragraph 4 is qualified by the words "when necessary", in recognition of the fact that the circumstances of some watercourse States and international watercourses may not justify the effort and expense that are involved in the development of contingency plans. Whether such plans would be necessary would depend, for example, upon whether the characteristics of the

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328/ See, e.g. art. 11 of the Convention on the protection of the Rhine against chemical pollution, supra, note 278.

natural environment of the watercourse, and the uses made of the watercourse and adjacent land areas, would indicate that it was possible for emergencies to arise.

(7) While watercourse States bear the primary responsibility for developing contingency plans, in many cases it will be appropriate to prepare them in cooperation with "other potentially affected States and competent international organizations". For example, the establishment of effective warning systems may necessitate the involvement of other, non-watercourse States as well as international organizations with competence in that particular field. In addition, the coordination of response efforts might be most effectively handled by a competent international organization set up by the States concerned.

## Part VI

## MISCELLANEOUS PROVISIONS

### Article 29

### International watercourses and installations in time of armed conflict 329/

International watercourses and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and internal armed conflict and shall not be used in violation of those principles and rules.

### Commentary

(1) Article 29 concerns the protection to be accorded to, and the use of international watercourses and related installations in time of armed conflict. The article, which is without prejudice to existing law, does not lay down any new rule. It simply serves as a reminder that the principles and rules of international law applicable in international and internal armed conflict contain important provisions concerning international watercourses and related works. These provisions fall generally into two categories: those concerning the protection of international watercourses and related works; and those dealing with the use of such watercourses and works. Since detailed regulation of this subject matter would be beyond the scope of a framework instrument, article 29 does no more than to refer to each of these categories of principles and rules.

(2) The principles and rules of international law that are "applicable" in a particular case are those that are binding on the States concerned. Just as article 29 does not alter or amend existing law, it also does not purport to extend the applicability of any instrument to States not parties to that instrument. On the other hand, article 29 is not addressed only to watercourse States, in view of the fact that international watercourses and related works may be used or attacked in time of armed conflict by other States as well. While a State not party to the present articles would not be bound by this provision per se, inclusion of non-watercourse States within its coverage was considered necessary both because of the signal importance of the subject and since the

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329/ Adopted in 1991.

article's principal function is, in any event, merely to serve as a reminder to States of the applicability of the law of armed conflict to international watercourses.

(3) Of course, the present articles themselves remain in effect even in time of armed conflict. The obligation of watercourse States to protect and use international watercourses and related works in accordance with the articles remains in effect during such times. Warfare may, however, affect an international watercourse as well as the protection and use thereof by watercourse States. In such cases, article 29 makes clear that the rules and principles governing armed conflict apply. For example, the poisoning of water supplies is prohibited by the Hague Conventions of 1907 Concerning the Laws and Customs of Land Warfare 330/ and article 54 of Protocol I of 1977 Additional to the Geneva Conventions of 12 August 1949, 331/ while article 56 of that Protocol protects dams, dikes and other works from attacks that "may cause the release of dangerous forces and consequent severe losses among the civilian population". 332/ Similar protections apply in non-international armed conflicts under articles 14 and 15 of Protocol II Additional to the 1949 Geneva Conventions. Also relevant to the protection of international watercourses in time of armed conflict is the provision of Protocol I that "Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage." 333/ In cases not covered by a specific rule, certain fundamental protections are afforded by the "Martens clause". That clause, which was originally inserted in the Preamble of the Hague Conventions of 1899 and 1907 and has subsequently been

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330/ Art. 23 of the Regulations annexed to the Convention concerning the Laws and Customs of Land Warfare, in Am. J.I.L. vol. 2 (1908), p. 106. For a commentary on art. 23, see L. Oppenheim, International Law: A Treatise, 7th ed., H. Lauterpacht, ed. (London, Longman, 1952, vol. 2, p. 340, sect. 110).

331/ Art. 54, para. 2.

332/ Art. 56, para. 1.

333/ Protocol I, art. 55, para. 1. A more general provision to the same effect is contained in art. 35 (Basic Rules), para. 3 of the same Protocol.

included in a number of conventions and protocols, 334/ now has the status of general international law. In essence, it provides that even in cases not covered by specific international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience. The same general principle is expressed in article 10, which provides that in reconciling a conflict between uses of an international watercourse, special attention is to be paid to the requirements of vital human needs.

Article 30

Indirect procedures 335/

In cases where there are serious obstacles to direct contacts between watercourse States, the States concerned shall fulfil their obligations of cooperation provided for in the present articles, including exchange of data and information, notification, communication, consultations and negotiations, through any indirect procedure accepted by them.

Commentary

Article 30 addresses the exceptional case in which direct contacts cannot be established between the watercourse States concerned. As already mentioned in the commentary to article 9 (para. (3)), circumstances such as an armed conflict or the absence of diplomatic relations may raise serious obstacles to the kinds of direct contacts provided for in articles 9 to 19. Even in such circumstances, however, there will often be channels which the States concerned utilize for the purpose of conveying communications to each other. Examples of such channels are third countries, armistice commissions and the good offices of international

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334/ For example, Protocol for the Prohibition of Poisonous Gases and Bacteriological Methods of Warfare of 17 June 1925 (Preamble, paras. 1 and 3); the Geneva Conventions of 12 August 1949 (Convention I, art. 63, para. 4; Convention II, art. 62, para. 4; Convention III, art. 142, para. 4; and Convention IV, art. 158, para. 4); Protocol I Additional to the 1949 Geneva Conventions (art. 1, para. 2); and the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects (Preamble, para. 5).

335/ Initially adopted as art. 21 in 1988.

organizations. Article 30 requires that the various forms of contact provided for in articles 9 to 19 be effected through any channel, or "indirect procedure", which has been accepted by the States concerned. All the forms of contact required by articles 9 to 19 are covered by the expressions employed in article 30, namely "exchange of data and information, notification, communication, consultations and negotiations".

## Article 31

## Data and information vital to national defence or security 336/

Nothing in the present articles obliges a watercourse State to provide data or information vital to its national defence or security. Nevertheless, that State shall cooperate in good faith with the other watercourse States with a view to providing as much information as possible under the circumstances.

### Commentary

Article 31 creates a very narrow exception to the requirements of articles 9 to 19. The Commission is of the view that States cannot realistically be expected to agree to the release of information that is vital to their national defence or security. At the same time, however, a watercourse State that may experience adverse effects of planned measures should not be left entirely without information concerning those possible effects. Article 31 therefore requires a State withholding information to "cooperate in good faith with the other watercourse States with a view to providing as much information as possible under the circumstances". The "circumstances" referred to are those that led to the withholding of the data or information. The obligation to provide "as much information as possible" could be fulfilled in many cases by furnishing a general description of the manner in which the measures would alter the condition of the water or affect other States. The article is thus intended to achieve a balance between the legitimate needs of the States concerned: the need for the confidentiality of sensitive information, on the one hand, and the need for information pertaining to possible adverse effects of planned measures, on the

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336/ Initially adopted as art. 20 in 1988.

other. As always, the exception created by article 31 is without prejudice to the obligations of the planning State under articles 5 and 7.

## Article 32

## Non-discrimination 337/

> Unless the watercourse States concerned have agreed otherwise for the protection of the interests of persons, natural or juridical, who have suffered or are under a serious threat of suffering significant transboundary harm as a result of activities related to an international watercourse, a watercourse State shall not discriminate on the basis of nationality or residence or place where the injury occurred, in granting to such persons, in accordance with its legal system, access to judicial or other procedures, or a right to claim compensation or other relief in respect of significant harm caused by such activities carried on under its jurisdiction.

### Commentary

(1) Article 32 sets out the basic principle that watercourse States are to grant access to their judicial and other procedures without discrimination on the basis of nationality, residence or the place where the damage occurred.

(2) The article contains two basic elements, namely, non-discrimination on the basis of nationality or residence and non-discrimination on the basis of where the harm occurred. The rule set forth obliges States to ensure that any person, whatever his nationality or place of residence, who has suffered significant transboundary harm as a result of activities related to an international watercourse should, regardless of where the harm occurred or might occur, receive the same treatment as that afforded by the country of origin to its nationals in case of domestic harm. This obligation would not affect the existing practice in some States of requiring that non-residents or aliens post a bond, as a condition of utilizing the court system, to cover court costs or other fees. Such a practice is not "discriminatory" under the article, and is taken into account by the phrase "in accordance with its legal systems". As indicated by the words, "has suffered or is under a serious threat of suffering significant transboundary harm", the rule of non-discrimination applies both to cases involving actual harm

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337/ Adopted in 1991.

and to those in which the harm is prospective in nature. Since cases of the latter kind can often be dealt with most effectively through administrative proceedings, the article, in referring to "judicial or other procedures", requires that access be afforded on a non-discriminatory basis both to courts and to any applicable administrative procedures.

(3) The rule is a residual one as denoted by the phrase "Unless the States concerned have agreed otherwise ...". This means that States may agree otherwise on the best means of providing relief to persons who have suffered or are under a serious threat of suffering significant harm for example, through diplomatic channels. The phrase for the protection of the interests of persons who have suffered ... "has been used to make it clear that the phrase agreed otherwise" is not intended to suggest that States decide by mutual agreement to discriminate in granting access to their judicial or other procedures or a right to compensation. It makes it clear that the purpose of the Inter-State agreement should always be the protection of the interests of the victims or potential victims of the harm. Rather it is intended to permit the matter to be handled at the diplomatic or State to State level should the States concerned agree so to do.

(4) The article also provides that States may not discriminate on the basis of the place where the damage occurred. In other words if significant harm is caused in State A as a result of conduct in State B, State B may not bar an action on the grounds that the harm occurred outside its jurisdiction. 338/

(5) One member of the Commission found the articles as a whole unacceptable on the ground that the articles deal with relations between States and should not extend into the field of actions by natural or legal persons under domestic law.

(6) Precedents for the obligation contained in article 32 may be found in international agreements and in recommendations of international organizations. For example, the Convention on the Protection of the Environment between Denmark, Finland, Norway and Sweden of 19 February 1974 provides as follows:

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338/ It might be noted that the international arbitration in the Trail Smelter Arbitration was required because the local courts of the State from which the fumes emanated did not at the time recognize the right of redress for injuries which occurred outside its jurisdiction even though the damage was caused by operations within its jurisdiction.

"Any person who is affected or may be affected by a nuisance caused by environmentally harmful activities in another Contracting State shall have the right to bring before the appropriate Court or Administrative Authority of that State the question of the permissibility of such activities, including the question of measures to prevent damage, and to appeal against the decision of the Court of the Administrative Authority to the same extent and on the same terms as a legal entity of the State in which the activities are being carried out.

"The provisions of the first paragraph of this article shall be equally applicable in the case of proceedings concerning compensation for damage caused by environmentally harmful activities. The question of compensation shall not be judged by rules which are less favourable to the injured party than the rules of compensation of the State in which the activities are being carried out." 339/

The Council of the Organization for Economic Cooperation and Development (OECD) has adopted a Recommendation on Implementation of a regime of equal right of access and non-discrimination in relation to transfrontier pollution. Paragraph 4 (a) of that Recommendation provides as follows:

"Countries of origin should ensure that any person who has suffered transfrontier pollution damage or is exposed to a significant risk of transfrontier pollution, shall at least receive equivalent treatment to that afforded in the country of origin in cases of domestic pollution and in

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339/ Convention on the Protection of the Environment between Denmark, Finland, Norway and Sweden of 19 February 1974, art. 3, United Nations, Treaty Series, vol. 1,092, p. 279, reprinted in International Legal Materials, vol. XIII, p. 591 (1974). Similar provisions may be found in art. 2, para. 6 of the ECE Convention on environmental impact assessment in a transboundary context, done at Espoo on 25 February 1991, document E/ECE/1250; the Guidelines on responsibility and liability regarding transboundary water pollution, part II.B.8, prepared by the ECE Task Force on responsibility and liability regarding transboundary water pollution, document ENVWA/R.45, 20 November 1990; and the Draft ECE Charter on environmental rights and obligations, para. 6, prepared at a meeting of experts on environmental law, 25 February-1 March 1991, document ENVWA/R.38, annex I.

comparable circumstances, to persons of equivalent condition or status ... ." 340/

Article 33

Settlement of disputes

In the absence of an applicable agreement between the watercourse States concerned, any watercourse dispute concerning a question of fact or the interpretation or application of the present articles shall be settled in accordance with the following provisions:

(a) If such a dispute arises, the States concerned shall expeditiously enter into consultations and negotiations with a view to arriving at equitable solutions of the dispute, making use, as appropriate, of any joint watercourse institutions that may have been established by them.

(b) If the States concerned have not arrived at a settlement of the disputes through consultations and negotiations, at any time after six months from date of the request for consultations and negotiations, they shall at the request of any of them have recourse to impartial fact-finding or, if agreed upon by the States concerned, mediation or conciliation.

(i) Unless otherwise agreed, a Fact-Finding Commission shall be established, composed of one member nominated by each State concerned and in addition a member not having the nationality of any of the States concerned chosen by the nominated members who shall serve as Chairman.

(ii) If the members nominated by States are unable to agree on a Chairman within four months of the request for the establishment of the Commission, any State concerned may request the

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340/ OECD document C(77)28 (Final), annex, in OECD, OECD and the Environment (1986), p. 150. To the same effect is principle 14 of the Principles of conduct in the field of the environment for the guidance of States in the conservation and harmonious utilization of natural resources shared by two or more States, approved in decision 6/14 of the Governing Council of the United Nations Environment Programme (UNEP) of 19 May 1978. A discussion of the principle of equal access may be found in Van Hoogstraten, Dupuy and Smets, "Equal Right of Access: Transfrontier Pollution", Environmental Policy and Law, vol. 2 (1976), p. 77.

Secretary-General of the United Nations to appoint the Chairman. If one of the States fails to nominate a member within four months of the initial request pursuant to paragraph (b), any other State concerned may request the Secretary-General of the United Nations to appoint a person who shall not have the nationality of any of the States concerned who shall constitute a single member Commission.

(iii) The Commission shall determine its own procedure.

(iv) The States concerned have the obligation to provide the Commission with such information as it may require and, on request, to permit the Commission to have access to their respective territory and to inspect any facilities, plant, equipment, construction or natural feature relevant for the purpose of its inquiry.

(v) The Commission shall adopt its report by a majority vote, unless it is a single member Commission, and shall submit that report to the States concerned setting forth its findings and the reasons therefor and such recommendations as it deems appropriate.

(vi) The expenses of the Commission shall be borne equally by the States concerned.

(c) If, after twelve months from the initial request for fact-finding, mediation or conciliation or, if a fact-finding mediation or conciliation commission has been established, six months after receipt of a report from the Commission, whichever is the later, the States concerned have been unable to settle the dispute, they may by agreement submit the dispute to arbitration or judicial settlement.

Commentary

(1) Article 33 provides a basic rule for the settlement of watercourse disputes. The rule is residual in nature and applies where the watercourse States concerned do not have an applicable agreement for the settlement of such disputes.

(2) Subparagraph (a) obliges watercourse States to enter into consultations and negotiations in the event of a dispute arising concerning a question of fact or the interpretation or application of the present articles. In carrying out such consultations and negotiations, the watercourse States concerned encouraged to utilize any existing joint watercourse institutions established by them. The words "as appropriate" were used to denote the fact that in conducting

consultations and negotiations the watercourse States concerned remain free to decide whether or not to utilize such joint watercourse institutions.

(3) The consultations and negotiations should be conducted in good faith and in a meaningful way that could lead to an equitable solution of the dispute. The principle that parties to a dispute should conduct their negotiations in good faith and in a meaningful way is a well-established rule of international law. The International Court of Justice, in the North Sea Continental Shelf case between Denmark and West Germany, stated with regard to this principle that the parties to a dispute "are under an obligation so to conduct themselves that the negotiations are meaningful, which will not be the case when either of them insists upon its own position without contemplating any modification of it". 341/

(4) Subparagraph (b) sets forth the right of any watercourse State concerned to request the establishment of a Fact-Finding Commission. The purpose of this provision is to facilitate the resolution of the dispute through the objective knowledge of the facts. The information to be gathered is intended to permit the States concerned to resolve the dispute in an amicable and expeditious manner and to prevent the dispute from escalating. Indeed, it is envisaged that the availability to watercourse States of fact-finding machinery will often prevent disputes from arising by eliminating any questions as to the nature of the relevant facts. Fact-finding as a means of conflict resolution has received considerable attention by States. For example, the General Assembly of the United Nations has adopted a Declaration on Fact-Finding in the Field of the Maintenance of International Peace and Security 342/ in which it defines fact-finding to mean "emphasi[zed] that the ability of the United Nations to maintain international peace and security depends to a large extent on its acquiring detailed knowledge about the factual circumstances of any dispute or situation, the continuation of which might threaten the maintenance of international peace and security ...". The request for fact-finding may be made by any of the parties to the dispute at any time after six months from the commencement of the

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341/ Ibid, p. 47.

342/ Annexed to General Assembly resolution 46/59, General Assembly Official Records, forty-sixth session, supplement No. 49 (A/46/49), p. 290.

consultations and negotiations. The rule also provides for the watercourse States concerned to have recourse to mediation or conciliation at the request of any of them and, upon the agreement of the other parties to the dispute. All the parties to the dispute must give their consent before recourse to mediation or conciliation can be made.

(5) Subparagraphs (b) (i) to (vi) provide for the constitution and functioning of the Fact-Finding Commission requested pursuant to paragraph 1 (b) thereof. The provisions state that unless the parties have agreed otherwise, 343/ the fact-finding shall be conducted by a Fact-Finding Commission established in accordance with paragraph 1, subparagraph (b) of this article.

(6) Subparagraph (b) (ii) gives the nominated members a period of four months after the establishment of the Commission to agree on a Chairman. If they fail to agree on a chairman, any party to the dispute may request the Secretary-General of the United Nations to appoint the Chairman. The rule also provides for any of the parties to the dispute to request the Secretary-General of the United Nations to appoint a single member Commission if any of the parties fails, within four months, to nominate a member. The person to be appointed may not be a national of any of the States concerned. These provisions are intended to avoid the dispute settlement mechanism being frustrated by the lack of cooperation of one of the parties.

(7) Subparagraph (b) (iii) provides that the Fact-Finding Commission should determine its own procedure.

(8) Subparagraph (b) (iv) obliges all the watercourse States concerned to provide the Commission with the information that it may require. This requirement is based on similar provisions which have been fairly common since the elaboration of the Bryan Treaties. 344/ The watercourse States concerned are also obligated to provide the Commission access to their respective territories,

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343/ They are free for example to establish a single member Commission or otherwise vary any aspect of the arrangement, including the size of the Commission.

344/ G.H. Hackworth, Digest of International Law (Washington DC), vol. VI, (1943), p. 5.

in order to inspect any facilities, equipment, construction or natural feature which may be relevant for the purpose of its inquiry.

(9) In accordance with subparagraph (b) (v), the Commission is required to adopt its report by a majority vote. Where a Commission is composed of a single member the report is that of the single member. The Commission is required to submit its report to the States concerned and should set forth its findings and give reasons thereof. It may also provide recommendations, if it deems it appropriate to do so.

(10) The rule provided in subparagraph (b) (vi) requires the expenses of the Commission to be borne equally by the watercourse States concerned. The parties may of course agree on a different arrangement.

(11) Subparagraph (c) sets out a rule for the submission of the dispute to arbitration or judicial settlement. In the event that there are more than two watercourse States parties to a dispute and some but not all of those States have agreed to submit the dispute to a tribunal or the International Court of Justice, it is to be understood that the rights of the other watercourse States who have not agreed to the referral of the dispute to the tribunal or the International Court of Justice cannot be affected by the decision of that tribunal or the International Court of Justice. The words "any tribunal or ad hoc tribunal" should also be understood to refer to arbitration tribunal.

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RESOLUTION ON TRANSBOUNDARY CONFINED GROUNDWATER

The International Law Commission,

Having completed its consideration of the topic on the Law of the Non-Navigational Uses of International Watercourses,

Having considered in that context groundwater which is related to an international watercourse,

Recognizing that confined groundwater, that is groundwater not related to an international watercourse, is also a natural resource of vital importance for sustaining life, health and the integrity of ecosystems,

Recognizing also the need for continuing efforts to elaborate rules pertaining to confined transboundary groundwater,

Considering its view that the principles contained in its draft articles on the Law of the Non-Navigational Uses of International Watercourses may be applied to transboundary confined groundwater;

1. Commends States to be guided by the principles contained in the draft articles on the Law of the Non-Navigational Uses of International Watercourses, where appropriate, in regulating transboundary groundwater;

2. Recommends States to consider entering into agreements with the other State or States in which the confined transboundary groundwater is located;

3. Recommends also that, in the event of any dispute involving transboundary confined groundwater, the States concerned should consider resolving such dispute in accordance with the provisions contained in article 33 of the draft articles, or in such other manner as may be agreed upon.

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